

HYBRID LED SOLAR STREET LIGHT

SKU: VB-NM-50W-4-5K-H



Never again be without light with the **Hybrid LED Solar Street Light**, providing sustainable lighting for streets, walkways, public spaces and more.

The New Moon Hybrid Solar Street Light combines high-efficiency solar technology and 36Ah LiFePO4 battery, with automatic 240V mains backup for uninterrupted illumination. Designed for parks, pathways, caravan parks, and public spaces, it combines energy efficiency, low maintenance, and modern durability with intelligent motion sensing and precision light distribution.



HYBRID LED SOLAR STREET LIGHT VB-NM-50W-4-5K-H

Our popular NEW Moon Solar Streetlights with PIR Sensor combines high-efficiency solar components with a quality LiFePO4 lithium battery, intelligent solar controller, and Panasonic infrared moon sensor, with the hybrid of mains power back up when it's needed.

The Hybrid LED Solar Street Light delivers reliable, energy efficient illumination through solar energy and solar charged batteries. When the battery is depleted, the system automatically transitions to 240V mains power to keep the LED operating and ensure uninterrupted illumination while the batteries recharge.

Compact and versatile, these street lights feature rotatable LED modules for precise light distribution, along with integrated bird spikes to help prevent nesting - ideal for caravan parks, local parks & gardens.

FEATURES & BENEFITS:

- Hybrid power - solar powered batteries, switching to mains power when battery is depleted
- Compact, modern design
- Uses infrared motion sensing; dims to 30% when no motion is detected
- Runtime: 10 hrs full power / 30 hrs power saving
- Charging Time: 6 hours (under direct sunlight)
- Performs even after several overcast days
- Suitable for Pole Mounting (60mm Pole diameter)
- 75W Solar Panel with 36Ah/12.8V LiFePo4 Battery

SPECIFICATIONS:

SKU:	VB-NM-50W-4-5K-H
Power (W)	50W
Lumen Output	10500
Efficacy (LM/W)	210
Colour Temp	5000K
Beam Angle	TYPE III
Solar Panel	75W/18V
LiFePO4 Battery	12.8V/36AH
CRI	70
Sensor	PIR
Trim Colour	Black
IP & IK Rating	IP66 & IK08
Lifespan	50,000 hours
Warranty	5 years



HOW DOES THE HYBRID SYSTEM WORK?

The AC/DC Hybrid Solar Street Light uses an intelligent energy management system to optimize performance and reliability.

During the day, solar panels convert sunlight into DC power and store energy in batteries. At night, the system powers the light using stored battery energy and automatically switches to AC supply when additional power is required, ensuring uninterrupted operation.

Key Features Of The Hybrid System:

- Intelligent power tracking and calculation
- Optimal solar energy capture
- Precise energy flow management
- Intelligent judgement of energy
- Automatically power switching
- Ideal for streets, pathways and car parks where reliable, energy-efficient illumination is essential



SOLAR POWER IN THE HYBRID SYSTEM

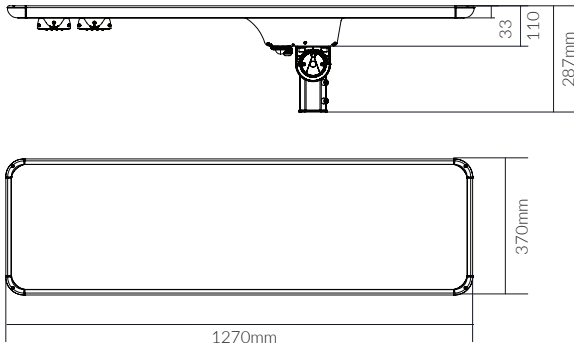
- **Solar Panel Energy Conversion**
Solar panels, also known as photovoltaic (PV) panels, convert solar energy into direct current (DC) electricity.
- **Maximum Power Point Tracking (MPPT)**
The MPPT hybrid controller continuously monitors solar panel voltage and current, optimizing the operating point to maintain maximum power output and improve energy efficiency.
- **Energy Storage Management**
The controller monitors battery and grid conditions, automatically switching to grid power during low battery levels or outages to ensure uninterrupted power supply.
- **Intelligent Power Adjustment**
The controller dynamically reduces lamp power based on battery charge levels, extending lighting duration, preventing battery depletion, and maintaining reliable illumination performance.



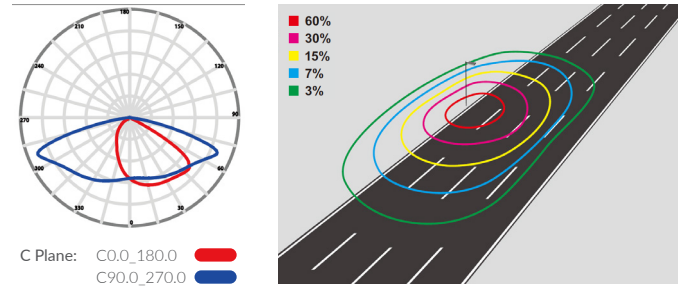
MAINS POWER IN THE HYBRID SYSTEM

- **Grid Connection and Backup**
The grid connection acts as a backup power source, supplying power when solar generation and battery storage are insufficient to maintain uninterrupted system operation.
- **Power Flow and Stability**
Power electronic devices and control algorithms manage energy flow between solar panels, the grid, and the load, ensuring stable and efficient performance during high demand or fluctuating solar generation.
- **Power Switching and Management**
The system uses stored DC battery power to operate street lights at night, automatically switching to AC supply when battery levels are low or additional power is required. This hybrid integration ensures reliable, sustainable operation while maximizing renewable energy usage and reducing grid dependence.

DIMENSIONAL DRAWING:



PHOTOMETRIC DATA:



HIGH PERFORMANCE BATTERY PACK (GRADE A+ CELL)



SHINE BRIGHTER. LAST LONGER. NEVER BE WITHOUT LIGHT.

Premium All-in-One Solar Street Lights

Step up to next-generation solar street lighting with our high-performance all-in-one designs, engineered for maximum brightness and unbeatable reliability. Unlike most solar lights on the market, ours are powered by ultra-high-capacity lithium batteries, delivering exceptional energy storage and longer-lasting illumination.

That's up to 40% more battery capacity than standard models — meaning brighter nights, longer run times and dependable performance even during extended cloudy periods.

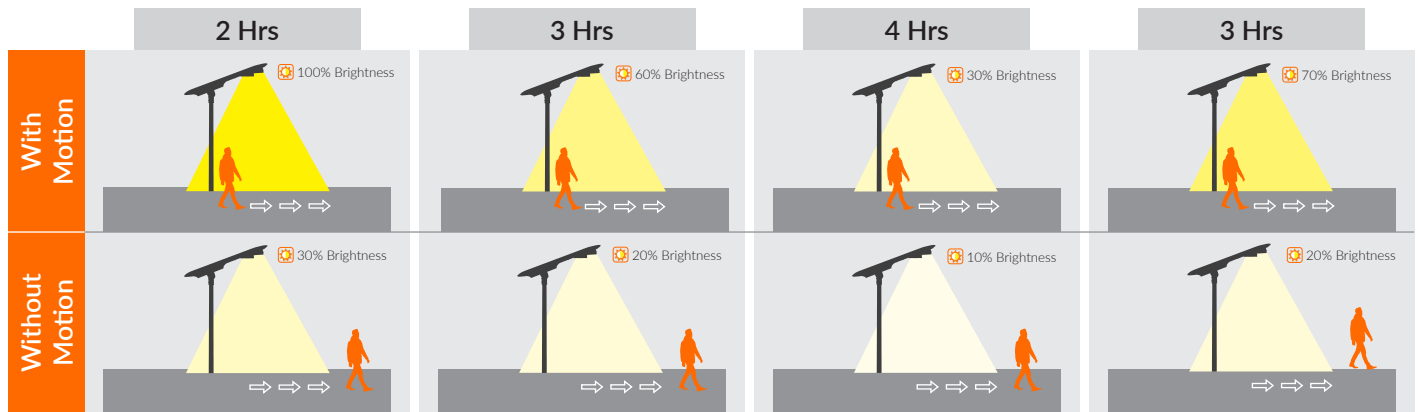
Why Choose Our Lights?

- **Bigger Batteries, Better Performance** – store more energy and power through the night
- **Superior LED Brightness** – advanced optics ensure wide, even light distribution
- **Smart Energy Management** – automatic on/off and intelligent dimming to maximise efficiency
- **Built to Last** – rugged, weatherproof construction for all environments

Whether you're lighting up streets, car parks, pathways, or remote areas, our solar street lights deliver premium performance you can count on — day after day, night after night. Brighter. Smarter. Stronger.

MPPT CONTROLLER WITH MOTION SENSOR MODE:

The graphic below illustrates how the MPPT solar controller manages light output based on motion detection and the passage of time during the night. It compares two conditions: When motion is detected & when there is no motion detected. This ensures maximum energy efficiency while still providing safety and illumination when needed.



MOTION SENSOR MODE (with Motion Detected)

- First 2 hours → Light runs at 100% brightness
- Next 3 hours → Reduced to 60% brightness
- Following 4 hours → Further reduced to 30% brightness
- Final 3 hours → Increased again to 70% brightness

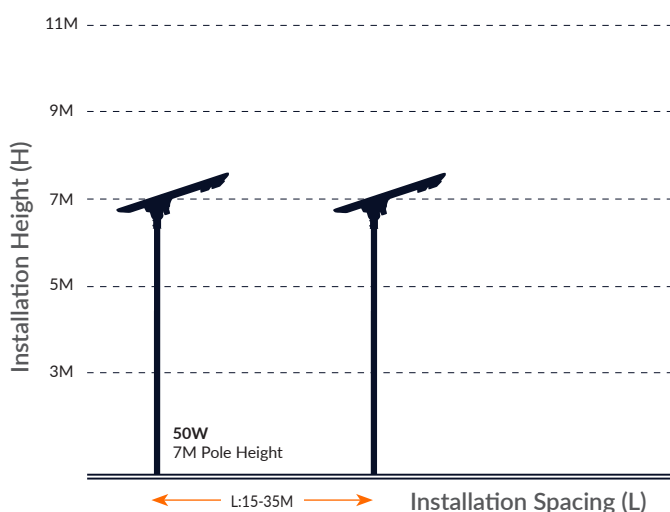
This sequence provides strong lighting during peak evening hours, saves energy in the middle of the night, and brightens again in the early morning for safety.

WITHOUT MOTION

- First 2 hours → Light runs at 30% brightness
 - Next 3 hours → Reduced to 20% brightness
 - Following 4 hours → Reduced further to 10% brightness
 - Final 3 hours → Back up to 20% brightness
- This baseline ensures continuous but energy-saving illumination when no activity is detected.

The MPPT solar controller adjusts light intensity throughout the night, optimising battery usage by dimming when motion is absent and brightening when activity is detected. This balances safety, efficiency, and performance.

INSTALLATION REFERENCE:



This installation guide shows the suggested installation height of 7 m with 15-35 m spacing. Use tighter spacing for higher lux and better uniformity, or wider spacing for economy.

